EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Dan Layden (60,921) on 11/26/2008.

The application has been amended as follows:

1. (Currently Amended) A method of monitoring a packet-switched network using traffic

logs, comprising:

[[(a)]] creating a histogram file associated with one of a node and a link within the

packet- switched network;

[[(b)]] at a first location within the packet-switched network, generating a traffic log

specific to a particular packet of a plurality of packets based upon detection of a content

of the packet, the traffic log containing a plurality of values detected within the packet

comprising a time, wherein the time is time of the traffic log was created, a network

entry point of the packet, a turn node, wherein the turn node is node number of the

highest level in the packet-switched network through which the packet passed, a

network exit point of the packet, and a packet state, wherein the packet state includes a

congested indication;

[[(c)]] transferring the traffic log from the first location to a second location;

[[(d)]] storing the traffic log generated by the network at the second location;

[[(e)]] analyzing the stored traffic log to determine the time of creation of the

traffic log and one or more nodes of a path traversed by the packet through the packet

switched network from the network entry point to the network exit point; [[and]]

<u>creating a histogram file by reading plurality of values in the traffic log; the</u>

<u>histogram file is representative of the number of packets of several states and a total</u>

<u>number of packets that pass through a given node over a predetermined time period;</u>

[[(f)]] updating the histogram file according to ~~at least~~ the time of creation of the

traffic log, <u>the packet state, the network entry point and the network exit point of each</u>

<u>packet of said plurality of packets;</u> wherein the histogram file displays network

conditions in near real-time enabling the detection and correction of network overloads

and congestion at one of a network node and a network node link before network

customers are affected.

14. (Currently Amended) A method of monitoring packet traffic through a node of a

packet-switched network using traffic logs, comprising:

~~(a) creating a histogram file for at least one node in the network;~~

[[(b)]] generating a traffic log specific to a particular packet based upon detection

of a content of the packet at a first location within the network based upon detection of

the content of a packet <u>of a plurality of packets</u>, the traffic log containing a plurality of

values being read from the packet, the plurality of values including <u>a time, wherein the</u>

<u>time is time of the traffic log was created, a turn node, wherein the turn node is node</u>

<u>number of the highest level in the packet-switched network through which the packet</u>

<u>passed.</u> a network entry point of the packet, a network exit point of the packet, and a

packet state, wherein the packet state includes a congested state which is specified by

the contents of the package;

[[(c)]] transferring the traffic log from the first location to a second location;

[[(d)]] storing the traffic log generated by the network at the second location;

[[(e)]] analyzing the stored traffic log to determine the time of creation of the

traffic log and <u>one or more nodes of a path traversed by the packet through the packet</u>

<u>switched network from</u> the network entry and exit points of the packet;

[[(f)]] determining a network path between the entry and exit points of the packet;

[[(g)]] determining whether the node falls along the network path; [[and]]

<u>creating a histogram file by reading plurality of values in the traffic log; the</u>

<u>histogram file is representative of the number of packets of several states and a total</u>

<u>number of packets that pass through a given node over a predetermined time period;</u>

[[(h)]] updating the histogram file using ~~at least a~~ <u>the</u> time of creation of the traffic

log<u>,</u> ~~and at least~~ the packet state<u>, the network entry point and the network exit point of</u>

<u>each packet of said plurality of packets;</u> ~~when the node falls along the network path~~,

wherein the histogram file is displays network conditions in near real-time enabling the

detection and correction of network overloads and congestion at one of a network node

and a network node link before network customers are affected.

25. (Currently Amended) A method of monitoring packet traffic passing through a link

connecting two nodes of a packet-switched network using traffic logs, comprising:

(a) creating a histogram file for at least one link in the network;

[[(b)]] generating a traffic log specific to a particular packet based upon detection

of a content of the packet at a first location within the network based upon detection of

the contents of a packet of a plurality of packets, the traffic log containing a plurality of

values detected within the packet, the plurality of values being read from the packet

including a time, wherein the time is time of the traffic log was created, a turn node,

wherein the turn node is node number of the highest level in the packet-switched

network through which the packet passed, a network entry point of the packet, a

network exit point of the packet, and a packet state, wherein the packet state includes a

congested state which is specified by the content of the packet;

[[(c)]] transferring the traffic log from the first location to a second location;

[[(d)]] storing the traffic log generated by the network;

[[(e)]] analyzing the traffic log to determine [[a]]the time of creation of the traffic

log and one or more nodes of a path traversed by the packet through the packet

switched network from the network entry and exit points of the packet;

[[(f)]] determining a network path between the entry and exit points;

[[(g)]] determining whether the link falls along the network path;

[[(h)]] determining a number of bytes carried by the packet associated with the

traffic log; [[and]]

creating a histogram file by reading the plurality of values in the traffic log; the

histogram file is representative of the number of packets of several states and a total

number of packets that pass through a given node over a predetermined time period;

[[(i)]] updating the histogram file using at least the time of creation of the traffic

log, the packet state, and the number of bytes when the link falls along the network

path, wherein the histogram file is utilized to monitor network conditions in near real-

time enabling the detection and correction of network overloads and congestion at one

of a network node and a network node link before network customers are affected.

36. (Currently Amended) A method of monitoring the operations of a packet-

switched network, the method comprising: [[,]]

the packet-switched network automatically generating a traffic log specific to a

particular packet based upon detection of a content of [[the]]each packet of a plurality of

packets, when a packet enters or exits the network by detecting values from the packet, ~~the method comprising:~~ the traffic log including plurality of values; the plurality of values being read from the packet including a time, wherein the time is time of the traffic log was created, a turn node, wherein the turn node is node number of the highest level in the packet-switched network through which the packet passed, a network entry point of the packet, a network exit point of the packet, and a packet state, wherein the packet state includes a congested indication;

creating a histogram file by reading the plurality of values in the traffic log; the histogram file is representative of the number of packets of several states and a total number of packets that pass through a given node over a predetermined time period;

[[(a)]] detecting when a new traffic log is available at a network control center;

[[(b)]] downloading the new traffic log to a server computer that maintains a plurality of histogram files;

[[(c)]] updating at least one histogram file of the server computer using information available from the new traffic log by analyzing the new traffic log to determine ~~one or more~~ plurality of values detected from the packet that are stored by the new traffic log that are relevant to the at least one updated histogram, the ~~one or more~~ plurality of values including the time creation of the new traffic log, a packet state, wherein the packet includes a traffic state indication of at least one of the following data elements: an "OK" state, an "illegal" state, a "congested" state and an "error" state, the network entry point and the network exit point of each packet of said plurality of packets;

[[(d)]] deleting the new traffic log; and

[[(e)]] making the ~~updated~~ at least one <u>updated</u> histogram file available to a client computer from the server computer, wherein the histogram file is utilized to monitor network conditions in near real-time enabling the detection and correction of network overloads and congestion at one of a network node and a network node link before network customers are affected.

43. (Currently Amended) A method of analyzing the performance of a packet-switched network where packets traverse multiple networks, <u>the method comprising:</u>

the packet-switched network automatically generating a traffic log specific to a particular packet based upon detection of a content of the packet <u>of a plurality of packets,</u> each time a packet exits the packet-switched network, ~~each traffic log including at least a time the traffic log was created, the addresses of the packet sender and packet recipient, and the entry and exit packet-switched network nodes, the method comprising the steps of:~~ <u>the traffic log including plurality of values; the plurality of values being read from the packet including a time, wherein the time is time of the traffic log was created, a turn node, wherein the turn node is node number of the highest level in the packet-switched network through which the packet passed, a network entry point of the packet, a network exit point of the packet, and a packet state, wherein the packet state includes a congested indication;</u>

[[(a)]] collecting at a centralized location a plurality of traffic logs from the packet-switched network, with each traffic log containing [[information]] the plurality of values relevant to a different packet that has exited the packet-switched network;

[[(b)]] analyzing each of the plurality of traffic logs to determine ~~information~~the plurality of values about each of the plurality of packets that have exited the packet-switched network; and

[[(c)]] automatically generating a plurality of histograms[[,]] by reading the plurality of values in the plurality of traffic logs, wherein each histogram is representative of the number of packets of several states and a total number of packets that pass through a given node over a predetermined time period; each histogram being based on information gleaned from the plurality of traffic logs about the packets that have exited the packet-switched network, wherein each histogram is utilized to monitor network conditions in near real-time enabling the detection and correction of network overloads and congestion at one of a network node and a network node link before network customers are affected.

49. (Currently Amended) A system for monitoring a packet-switched network that automatically generates traffic logs, comprising:

[[(a)]] a network control center at which the traffic logs are collected, each traffic log being specific to a particular packet based upon detection of a content of the packet and containing a plurality of values detected within a packet including a time, wherein

the time is time of the traffic log was created, a turn node, wherein the turn node is node

number of the highest level in the packet-switched network through which the packet

passed, a network entry point and a network exit point and a packet state, wherein the

packet state includes a congested state which is specified by the content of the packet;

and

    [[(b)]] a computer operable to :

        [[(i)]] create a histogram file[[,]]by reading the plurality of values in the

traffic log; the histogram file is representative of the number of packets of several

states and a total number of packets that pass through a given node over a

predetermined time period;

        [[(ii)]] store a traffic log generated by the network,

        [[(iii)]] analyze the traffic log to determine the time of creation of the traffic

log and the network entry and exit points of a the associated packet, and

        [[(iv)]] update the histogram file using at least the time of creation of the

traffic log, at least the packet state, and at least one of the entry and exit points of

the packet, wherein the histogram file is utilized to monitor network conditions in

near real-time enabling the detection and correction of network overloads and

congestion at one of a network node and a network node link before network

customers are affected.

60. (Currently Amended) A system for monitoring packet traffic through a node of a packet-switched network that automatically generates <u>plurality</u> traffic logs, comprising:

[[(a)]] a server connected to a network control center; and

[[(b)]] a client connected to the server, wherein the server is operable to [[(i)]]

create a histogram file for at least one node in the network <u>by reading plurality of values in each traffic log of the plurality traffic logs, the histogram file is representative of the number of packets of several states and a total number of packets that pass through a given node over a predetermined time period; [[,]]</u>

[[(ii)]]store [[a]] <u>the</u> traffic log specific to a particular packet based upon detection of a content of the packet and generated by the network that contains a plurality of values detected within a packet, the plurality of values being read from the packet including <u>a time, wherein the time is time of the traffic log was created, a turn node, wherein the turn node is node number of the highest level in the packet-switched network through which the packet passed,</u> a packet state, wherein the packet state includes a congested state which is specified by the content of the packet[[,]] <u>;</u>

[[(iii)]] analyze the traffic log to determine [[a]] <u>the</u> time of creation of the traffic log and the network entry and exit points of the packet, [[(iv)]] determine a network path between the entry and exit points, [[(v)]] determine whether the node falls along the network path[[,]]<u>;</u> and

[[(vi)]] update the histogram file using at least the time of creation of the

traffic log [[and]], the packet state when the node falls along the network path, the

entry and exit points of the packet, wherein the histogram file is utilized to

monitor network conditions in near real- time enabling the detection and

correction of network overloads and congestion at one of a network node and a

network node link before network customers are affected.

69. (Currently Amended) A system for monitoring packet traffic passing through a link

connecting two nodes of a packet-switched network that automatically generates

plurality of traffic logs, comprising:

[[(a)]] a server; and

[[(b)]] a client connected to the server, wherein the server is programmed to :

(i) create a histogram file for at least one link in the network by reading

plurality of values in each traffic log of the plurality traffic logs, the histogram file

is representative of the number of packets of several states and a total number of

packets that pass through a given node over a predetermined time period; [[,]]

[[(ii)]] store [[a]] the plurality of traffic logs; each traffic log of the plurality of

traffic logs specific to a particular packet based upon detection of a content of the

packet and generated by the network that contains a plurality of values being

read from within a packet including: a time, wherein the time is time of the traffic

<u>log was created, a turn node, wherein the turn node is node number of the</u>

<u>highest level in the packet-switched network through which the packet passed,</u> a

network entry point, a network exit point, a packet state, wherein the packet state

includes a congestion state which is specified by the content of the packet[[,]]<u>;</u>

[[(iii)]] analyze the traffic log to determine [[a]] <u>the</u> time of creation of the

traffic log and the network entry and exit points of the packet, (iv) determine a

network path between the entry and exit points, [[(v)]] determine whether the link

falls along the network path, [[(vi)]) analyze the traffic log to determine

the number of bytes carried by the packet associated with the traffic log[[,]]<u>;</u> and

(vii) update the histogram file using ~~at least~~ the time of creation of the

traffic log, the packet state, [[and]] the number of bytes when the link falls along

the network path, <u>the entry and exit points of the packet,</u> wherein the histogram

file is utilized to monitor network conditions in near real-time enabling the

detection and correction of network overloads and congestion at one of a

network node and a network node link before network customers are affected.

78. (Currently Amended) A system for monitoring the operations of a packet-switched

network, the network automatically generating a traffic log when a packet enters or exits

the network, the system comprising:

a server, in communication with a network control center, for<u>:</u>

create a histogram file for at least one link in the network by reading

plurality of values in the traffic log, the histogram file is representative of the

number of packets of several states and a total number of packets that pass

through a given node over a predetermined time period;

detecting when a new traffic log specific to a particular packet based upon

detection of a content of the packet is available at the network control center, the

new traffic log contains a plurality of values being read from within a packet

including: a time, wherein the time is time of the traffic log was created, a turn

node, wherein the turn node is node number of the highest level in the packet-

switched network through which the packet passed, a network entry point, a

network exit point, a packet state, wherein the packet state includes a congestion

state which is specified by the content of the packet;

[[for]] downloading the new traffic log;

[[for]] updating at least one histogram file using information available from

the new traffic log by analyzing the traffic log to determine ~~one or more~~ values

being detected and read from the content of the packet, wherein the ~~one or more~~

values include a packet state, wherein the packet state includes a congestion

state specified by the content of the packet, the time of creation of the traffic log,

the entry and exit points of the packet, and wherein the ~~at least one~~ histogram file

is utilized to monitor network conditions in near real-time enabling the detection

and correction of network overloads and congestion at one of a network node

and a network node link before network customers are affected; and :

a client computer for displaying the histogram.

84. (Currently Amended) A system for analyzing the performance of a packet-switched

network where packets traverse multiple networks, the system comprising:

the network automatically generating a traffic log specific to a particular packet

based upon detection of a content of the packet each time a packet enters or exits the

packet-switched network, each traffic log including at least a time the traffic log was

created, a turn node, wherein the turn node is node number of the highest level in the

packet-switched network through which the packet passed, the address of [[the]] packet

sender and packet recipient, and the entry and exit packet-switched network nodes and

a packet state, wherein the packet state includes a congested indication;, the system

comprising

[[(a)]] a traffic log database containing a plurality of traffic logs, each traffic log of

the plurality containing a plurality of values detected in and read from the contents of the

packet; and

[[(b)]] a computer, operable to:

download the plurality of traffic logs from the traffic log database[[, to]]:

analyze each of the plurality of traffic logs to determine one or more

values detected from each of the packets, and to:

generate a pair of histograms by reading plurality of values in the plurality

of traffic logs, the plurality of values including: a time the traffic log was created, a

turn node, wherein the turn node is node number of the highest level in the

packet-switched network through which the packet passed, the address of

packet sender and packet recipient, entry and exit packet-switched network

nodes and a packet state, wherein the packet state includes a congested

indication and

store plurality pairs of histograms, ~~each pair of histograms being~~

~~generated from information gleaned from the plurality of traffic logs about each of~~

~~the packets,~~ wherein ~~at least~~ the [[one]] pair of histograms is representative of

packet traffic passing to and from a host connected to the packet-switched

network, [[each]] the pair of histograms is utilized to monitor network conditions in

near real-time enabling the detection and correction of network overloads and

congestion at one of a packet-switched network node and a packet-switched

network node link before network customers are affected.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The prior art of record failed to teach the claim invention as claimed in claims 1-5,7-

39,41-52 and 54-87. Specifically it failed to teach, generating a traffic log specific to a

particular packet of a plurality of packets based upon detection of a content of the

packet, the traffic log containing a plurality of values detected within the packet

comprising a time, wherein the time is time of the traffic log was created, a network entry point of the packet, a turn node, wherein the turn node is node number of the highest level in the packet-switched network through which the packet passed, a network exit point of the packet, and a packet state, wherein the packet state includes a congested indication; analyzing the stored traffic log to determine the time of creation of the traffic log and one or more nodes of a path traversed by the packet through the packet switched network from the network entry point to the network exit point; creating a histogram file by reading plurality of values in the traffic log; the histogram file is representative of the number of packets of several states and a total number of packets that pass through a given node over a predetermined time period; updating the histogram file according to the time of creation of the traffic log, the packet state, the network entry point and the network exit point of each packet of said plurality of packets. The above limitations in combination with other limitations of claims 1-5,7-39,41-52 and 54-87 enable claims' allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to DUYEN DOAN whose telephone number is (571)272-
4226. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, John Follansbee can be reached on 571 272 3964. The fax phone number
for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
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/D. D./
Examiner, Art Unit 2452

/Kenny S Lin/
Primary Examiner, Art Unit 2452